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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,688	07/28/2003	Hideki Kato	2018-756	4616
23117	7590	04/24/2006		
NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203			EXAMINER DRODGE, JOSEPH W	
			ART UNIT	PAPER NUMBER
			1723	
DATE MAILED: 04/24/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/627,688	Applicant(s) KATO ET AL.	
	Examiner Joseph W. Drodge	Art Unit 1723	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 18 April 2006.  
 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) ☒ Claim(s) 11,20-22 and 29-47 is/are allowed.  
 6) ☒ Claim(s) 1-10,12-19 and 23-28 is/are rejected.  
 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) ☒ All b) ☐ Some \* c) ☐ None of:  
 1. ☒ Certified copies of the priority documents have been received.  
 2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,13-19 and 23-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Boutwell et al patent 5,908,020, of record. Boutwell et al disclose a module comprising: fuel pump 52, fuel filter 32, filter casing 55/12/20 that encompasses filter and pump (figure 2), filter element 38, fuel outlet 90 to the outside of a side wall of the casing, pressure regulator 104, fuel outlet outflow passage 100, pressure regulator being **radially** outside of sidewall 18 & adjacent portions of the filter casing, the pressure regulator including regulator inlet 102 opening/passage to a retrieve passage 106 that returns flow back through the outer circumference of filter casing to the filter.

***The module defines a fuel tank, since a portion of the space within functions to temporarily retain fuel (column 3, lines 49-52). The pressure regulator is disposed outside of the circumferential wall 20 of the module/tank and is radially disposed with respect to both the filter and fuel pump. The filter element, may be regarded as downstream of the fuel pump, so as to filter contaminants pumped, since a portion of the pumped fuel that passes through the pressure regulator, is returned to pass through the filter element (column 5, lines 7-12).***

Figure 2 further shows both fuel outflow passage/outlet passage and retrieve passage as containing bent horizontal and vertical portions as in claims 2,18 and 19.

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Also the pressure regulator is substantially between fuel outlet outlet portion 100 and sidewall 21 of circumference of casing, for claim 3.

For claims 4, 23,24 and 26, no fuel tank is positively recited.

For claims 5 and 28, the regulator is disposed on sidewall 18 of casing.

For claims 13 and 25, portion 20 of the casing that holds the regulator projects from body portion 12 of casing.

For claim 14-16, the filter casing is substantially the length of the fuel pump and substantially covers the pump.

For claim 17 and 24, discharge portion 72 or 52 of pump is axially aligned with vertical center axis of pump.

For claims 25 and 36, also see projecting portion 117 of the casing which holds the regulator.

For claim 26, figure 1 additionally indicates pressure regulator length clearly being greater than the relative short spacing of casing bottom wall and fuel tank bottom wall.

Claim 27 limitations were all discussed per claim 6.

For claim 28, regulator is disposed on sidewall 122 of casing.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izutani et al, of record, in view of newly cited Stone et al patent 5,858,227.

Izutani et al disclose fuel pump 110, fuel filter 120, casing 126 that covers filter and pump, filter element 124, pressure regulator 130, check valve being downstream of pump and in the fuel inlet to the filter (column 4, lines 60-62), the pump including a discharge portion (***upper portion of body 110 that is coupled to passage 112/134 that has the check valve and functions both as an outlet of the pump and inlet of***

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***the filter (column 3, lines 61-65 and column 4, lines 49-54 and 60-61)*** covered by the casing (column 4, lines 43-44).

Claim 6 now differs in requiring the check valve to be accommodated in an inner surface of the fuel inlet and to have an O-RING seal disposed on the valve's downstream side so as to seal between the discharge portion of fuel pump and fuel inlet of the fuel filter. However, Stone et al teach a fuel filter 150, with fuel inlet passage 160,162 having check valve 200 and O-ring seal 196/197 downstream of the check valve at the downstream proximal end of the inlet passage (figures 8 and 9 and column 7, lines 1-14, etc.). It would have been obvious to one of ordinary skill in the art at the time of the invention to have incorporated such O-ring seal and check valve arrangement of Stone et al into the Izutani arrangement, to more completely provide sealing of flow into the filter when changing the filter (see also Stone et al Abstract for explicit statement of such motivation).

Figure 1 shows the axial alignment and overlapping of fuel inlet, discharge portion and check valve for claim 7.

For claim 8, the regulator portions 144/146/149 are, at least, are outside of the casing circumference [also applying to claim 35].

For claim 9, see casing sidewall 122. For claims 10 and 37, see discharge opening 142 on sidewall of casing.

Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Boutwell et al in view of Izutani et al. Claim 12 differs in requiring casing to be of resin material, as taught by Izutani at column 5, lines 3-4 and lines 42-44. It would have been obvious

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to one of ordinary skill in the art to have employed the resin material of Izutani to make the casing of Boutwell to enable discharge of static electricity.

***ALLOWABLE SUBJECT MATTER***

Claims 11 and 38 respectively distinguish in view of recitation of pressure regulator being in the through hole of the fuel outlet so that it covers one open end thereof. Such configuration non-obviously gives a more compact arrangement.

Claims 20-22 respectively distinguish in view of limitations pertaining to filter casing having inner and outer cylinder with accommodation chamber therebetween accommodating fuel filter, such accommodation chamber facilitating convenient replacement of the fuel filter.

Claim 29 and claims dependent therefrom now are distinguished over the prior art of record in view of recitation of the suction filter not only overlapping the pressure regulator in the range of the center axial direction of the fuel pump, but also facing the pressure regulator in a radial direction of the fuel pump.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Patents 6,520,163 and 6,142,126 as well as PGPUBS Document 2005/0056257 all concern compact arrangements of suction filter, fuel pump, fuel filter and pressure regulator.

Applicant's arguments filed on January 3, 2006 have been fully considered but they are not persuasive.

With respect to claim 1 and claims dependent therefrom, it is argued that the filter element is not taught as being downstream of the fuel pump in Boutwell. However,

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since pumped fuel is recirculated from the pressure regulator of Boutwell back through the filter, the filter element of Boutwell can be considered both upstream and downstream of the pump.

With respect to claim 6, it is argued that Izutani does not disclose check valve as being disposed in the fuel inlet of the filter casing. However, it is submitted that discharge pipe 112 of Izutani communicates fuel pump discharge to input to filter casing and filter element and thus serves both as a fuel pump discharge pipe and filter casing inlet.

Applicant's arguments filed on 30 March 2006, with respect to claims rejected over Boutwell, have been fully considered but they are not persuasive. It is argued that Boutwell does not disclose flow extending from a discharge opening of a filter casing to a downstream regulator inlet of a pressure regulator, that is downstream of a fuel pump. However, the structure 90 of Boutwell taken in its entirety presents such downstream outlet or discharge passage 100 that is generally on the side wall of a filter casing and is in-turn fluidly communicating with passage 102 to the pressure regulator and further communicating with a return passage 106, etc. to recirculate (pass fluid downstream) back to fuel filter.

Applicant's arguments with respect to claims 6-10 have been considered but are moot in view of the new ground(s) of rejection.



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Drodge at telephone number 571-272-1140. The examiner can normally be reached on Monday-Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker, can be reached at 571-272-1151. The fax phone number for the examining group where this application is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either private PAIR or Public PAIR, and through Private PAIR only for unpublished applications. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JWD

April 21, 2006

  
JOSEPH DRODGE  
PRIMARY EXAMINER